Abstract

Deterioration of goods and learning is a realistic phenomenon in daily life. Therefore maintaining the stock of decaying items becomes an important factor for decision makers. In this study deterioration rate follows the Weibull distribution and holding cost is gradually decreases, therefore learning effect is incorporated on holding cost. Many researchers generally assumed that the shortages are either completely backlogged or lost. But in this paper shortage is allowed and partial backlogged. The backlogging rate is taken as exponential function of time. Numerical examples are provided to further illustrate the model. Sensitivity analysis has been carried out to analyze the impact of change in various parameters. The aim of this model is to minimize the total cost.

References


**Index Terms**

Computer Science  
Information Sciences

**Keywords**

Inventory, Non-instantaneous deterioration, Time dependent demand rate, Learning, Partial backlogging